SCORE SIDE OF FUSELAGE BOX & CRACK SIDES IN TO THE ANGLE SHOWN
LAY STRIPS OF CLOTH & RESIN OVER SCORED BENT BETWEEN STRINGERS

1/8 x 3/8 SOFT PLANKING OVER TOP OF NOSE

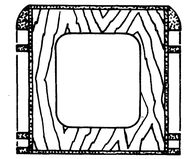
1/8 SHEET FAIRING AFT OF CABIN

RECESS STRINGERS UNDER FRAME

SOFT 1/16 SHEET STRINGER BRACES

BEFORE COVERING FUSELAGE, RUB ALL STRINGER EDGES, RECESSED AREAS OF BALSA SHEET WITH BEESWAX, CRAYON ETC., TO PREVENT SILK FROM STICKING OR PULLING OVER THE EDGES OF STRINGERS & SKIN SHEETING

FUSELAGE SIDES & TOP ARE 1/16 SHEET (MEDIUM)
ADD ACCESS DOOR & SIDE WINDOWS BEFORE ASSEMBLING BASIC FUSELAGE
AFTER BASIC FUSELAGE IS TOGETHER FROM STATION 4 AFT, CRACK 1/16 SIDES AT STATION 4 & BOX IN NOSE SECTION. FORMERS & STRINGERS ARE NOW ADDED . WHEN FUSELAGE IS ROUGH FINISHED, FAIR SURFACES TO FINISH FORM WITH SANDPAPER
DO NOT ADD ANY UNNECCESARY STRUCTURE --- FUSELAGE AS SHOWN IS EXTREMELY LIGHT, BUT IT IS STRONG ENOUGH & WILL STAY TOGETHER DURING ALL FLIGHT AND NORMAL LANDING MANEUVERS (IF A TWIN IS BUILT AS STURDY AS WE LIKE TO BUILD SINGLES THERE WOULD PROBABLY BE NO FLIGHT MANEUVERS)



BULKHEAD AT STATION 9 1/8 PLY

SKIN REMOVED TO SHOW BASIC STRUCTURE

3/32 STRINGERS SHOULD BE FULL DEPTH TO PREVENT SAG WHEN DOPING

FILL IN ACCESS DOOR OUTLINE WITH 1/16 SHEET

1/16 SHEET TRAILING EDGES

1/4 x 5/8 LEADING EDGE

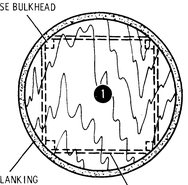
3/8 x 1/2

1/16 x 1 3/8 SHEET

BOX THIS AREA TO RETAIN CRANK

SOFT BALSA TAIL BLOCK

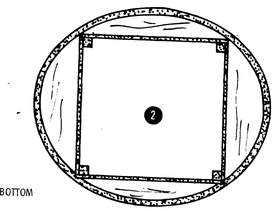
FAIR CORNERS OF FUSELAGE BOX AS SHOWN AT NOSE BULKHEAD



1/8 SOFT SHEET PLANKING BETWEEN STATIONS 1 & 2

FUSELAGE BOX BUTT GLUES TO STATION 1 BULKHEAD

3/32 SHEET COCKPIT DECK -- INSTALL AS PART OF FUSELAGE BOX



OUTBOARD STRINGER

INTERMEDIATE STRINGER

CUT FUSELAGE SIDE PANELS TO LOWER DOTTED LINE

TOP EDGE CENTER STRINGER

1/16 SHEET CROSS GRAIN TOP & BOTTOM

TRUE LENGTH OF FUELAGE SIDE PANELS

3/32 x 3/16

ACCESS DOOR OUTLINE (THIS SIDE ONLY)

1/8 x 1/4 TYPICAL SIDE STRINGER

1/8 x 1/2 UPRIGHTS & CROSS MEMBERS

3/32 x 45 deg DOUBLERS

1/16 DOOR PANEL

CLOTH & RESIN PATCHES

SERVOS

1/8 PLY BULKHEAD SUPPORTING 1/4 x 3/8 HARD SERVO RAILS

1/8 x 1/4 ON EDGE

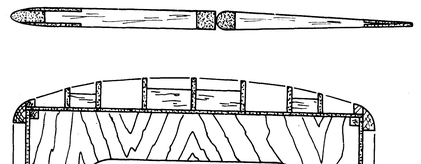
1/4 SHEET FLUSH WITH STRINGERS

1/4 SHEET FLUSH WITH STRINGERS

1 1/4" DIAMETER TAIL WHEEL

BUILD UP AREA AROUND DOWEL WITH SHEET UNTIL FLUSH WITH STRINGERS

INSTALL STABILIZER PERMANENTLY TO FUSELAGE -- INSTALL RUDDER & TAIL WHEEL CRANK (NOTCH STAB . SPAR)
INSTALL FIN & COMPLETE FWD FAIRING --- SEW ELEVATOR CRANK TO STAB (NOTE HORN OFFSET) ADD BLOCK BETWEEN STAB SPAR & HOLLOW BLOCK FOR ADEQUATE ELEVATOR HORN TRAVEL --- COMPLETE FAIRING --- COVERING & PAINTING
WHEN SHIP IS COMPLETED, SEW RUDDER & ELEVATORS ON WITH 1/2A DACRON U-CONTROL LINE



RUDDER

1/16 SIDE SHEET

SOFT BLOCK

ELEVATOR HORN ASSEMBLY

HARDWOOD FAIRING

BOX IN CRANK WITH SCRAP

ALL WIRE SHOWN TO BE 3/32 O. D. IN 3/32 I. D. TUBING

3 1/2" DIAMETER AIR WHEELS (INDIVIDUAL WHEEL BRAKES OPERATED BY AILERON SERVO)

3/8 SOFT - FILL IN 4 SECTIONS BETWEEN KEELS

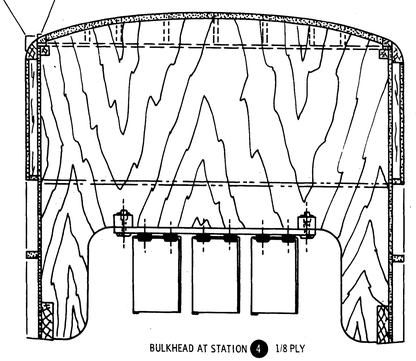
TO MODIFY TANK :
REMOVE REAR COVER OF FUEL TANK AND TRIM 3/8 IN. FROM MAIN TANK DRUM ---REINSTALL COVER
DO NOT TRIM WING TO FIT STANDARD 8 OZ TANK

SOFT BALSA FAIRING BLOCK EACH SIDE OF KEEL (TOP & BOTTOM)

MODIFIED 8 OZ DEBOLT TANK

3/16 SQ SOFT FAIRING

1/4 x 1/2 SOFT FAIRING



BULKHEAD AT STATION 4 1/8 PLY

BULKHEAD AT STATION 6 1/8 PLY

3/32 SHEET COCKPIT DECK

1/8 SOFT SHEET PLANKING

1/8 SHEET FORMER

SILK COVERING

FRAMING DETAIL AT STATION 3

NOTE : FUEL TANK OFFSET

VERTICAL KEEL

1/8 CROSS GRAIN SHEET TO FIREWALL

8 oz DEBOLT CLUNK TANK

HORIZONTAL KEEL

1/8 x 3/8 PLANKING

FRAME MADE UP OF 4 QUARTER SECTIONS 21

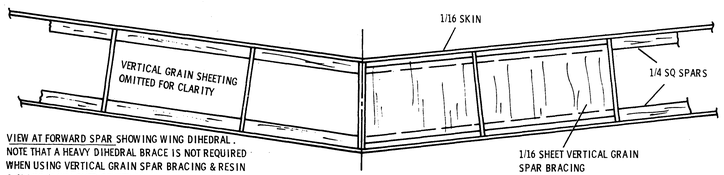
STANDARD DEBOLT 2 LEG NOSE GEAR MODIFY TO BOLT DIRECTLY TO PLY

1/8 5 PLY LANDING GEAR MOUNT - INSTALL NO. 4-40 BLIND NUTS BEFORE SHEETING NACELLE

3 NO. 4 - 40 BLIND NUTS TO MOUNT COWLING 'S TO NACELLES

FUEL LINE PORT

3 3/8 DIAMETER FIREWALL 1/8 5 PLY
INSTALL NO. 4 - 40 BLIND NUTS BEFORE ASSEMBLING FIREWALL TO NACELLE



VIEW AT FORWARD SPAR SHOWING WING DIHEDRAL .
NOTE THAT A HEAVY DIHEDRAL BRACE IS NOT REQUIRED WHEN USING VERTICAL GRAIN SPAR BRACING & RESIN & GLASS CLOTH OVER CENTER JOINT

Cessna UC-78

Famous Bomber

DESIGNED BY	BOB HORSE	DRAWN BY	GEORGE A. WALKER

0 1 2 3 4 5 6

AILERONS ARE BUILT INTEGERALLY
WITH WING & CUT FREE LATER

PROTOTYPE WING TIPS WERE
SOFT BALSA BLOCKS

STABILIZER & ELEVATOR RIB SPACING & SKIN SHEETING
ARE EXACT SCALE . AREA IS 24% OF EFFECTIVE WING AREA .
WITH THE LONG TAIL MOMENT ARM-HORIZONTAL (PITCH)
STABILITY IS EXPECTED TO BE ADEQUATE .

SILVER SOLDER CONTROL HORN
TO ELEVATOR CRANK

SEW TUBING SECURELY TO
REAR SPAR WITH 1/2A DACRON
U-CONTROL THREAD

3/8 x 3/4
SPARS

ALL RIBS & SKIN 1/16 SOFT SHEET

3/8 x 1/4 LEADING EDGE

FIBRE GLASSED COWL

FUEL LINE PORT (REF)

DETAIL--- COWLING MOUNTING RING

1/8 PLY MOUNTING RING
RESINED TO I. D. OF COWL

INBOARD HORIZONTAL KEEL
1/8 5 PLY

OUTBOARD HORIZONTAL KEEL
1/8 5 PLY

MODIFIED BONNER NYLON
RUDDER HORN & SCREWS

1/8 PLY INBOARD
AILERON RIB

1/16 DIAMETER AILERON PUSHROD

SAND BEVEL IN LOWER
SHEET BEFORE INSTALLING

RUN 2 IN. WIDE STRIP OF GLASS CLOTH
& RESIN OVER CENTER JOINT
(TOP & BOTTOM OF WING)

3/16 x 1/4 REAR SPARS

AILERON SERVO

3/32 x 3/4 PLY SERVO
MOUNTING RAILS

THROTTLE SERVO

3/16 x 3/8 MAIN SPARS

1/16 SOFT VERTICAL GRAIN
BETWEEN RIBS AS SHOWN
(FRONT & REAR SPARS)

3/8 x 3/4 LEADING EDGE

C/L OF NACELLE

1/8 PLY RIB

EDGE OF 1/16 SHEET
TRAILING EDGE

1/8 PLY CRANK
MOUNT PLATE

WING CONSTRUCTION: MULTI ENGINE SCALE MODELS
INVARIABLY HAVE WINGS WHOSE WEIGHT IS OUT OF ALL
PROPORTION TO THE TOTAL WEIGHT OF THE MODEL . IT
IS FELT THAT THE WING SHOWN IS OF SUFFICIENT STRENGTH
TO WITHSTAND ALL FLIGHT AND LANDING LOADS . ALL
LOADS ARE TRANSMITTED THRU THE RIGED SKIN . THE SPARS
DOUBLERS, ETC., ONLY ASSIST IN KEEPING SKIN RIGID .
DO NOT INCREASE MATERIAL SIZES OVER THOSE SHOWN --
DO NOT ADD PLYWOOD DIHEDRAL BRACES (GLASS CLOTH &
RESIN IS SUFFICIENT) .
USE MEDIUM TO SOFT BALSA THROUGHOUT .

NACELLE ASSEMBLY SEQUENCE
1. POSITION VERTICAL KEEL ON WING & CEMENT
2. INSTALL MODIFIED TANK IN KEEL
3. INSTALL HORIZONTAL KEELS & CEMENT TO TANK & WING
4. INSTALL FIREWALL & LANDING GEAR MOUNT
5. PAINT ALL JOINTS WITH EPOXY RESIN
6. PLANK NACELLES WITH 1/8 x 3/8 SOFT STRIPS

OPPOSITE ENGINE EQUIPPED WITH
K & B REVERSE PORTED CRANKSHAFT
USE TORNADO 10 - 6 R. H. & L. H. PROPS
TORQUE EFFECT IS ELIMINATED IN THIS MANNER

10 - 6 R. H. ROTATION PROP

LANDING GEAR MOUNT IS EPOXIED TO
BULKHEAD KEEL & ADJACENT PLANKING--
4-40 BLIND NUTS INSTALLED TO MATCH
MODIFIED DEBOLT RC-7 NOSE GEAR---
PLANKING CAN THEN BE COMPLETED .

INBOARD KEEL

C/L OF TANK

OUTBOARD KEEL

K & B 35 R/C
ENGINES SHOWN

STANDARD K & B RADIAL
ENGINE MOUNT PLATE

10 - 6 L. H. ROTATION PROP

BRACE AILERON & ENGINE PUSHRODS
WITH 1/16 SQ HARDWOOD AS SHOWN
(EVERY OTHER RIB)

FUEL TANK CUT OUT

RECESS FOR
LANDING
GEAR
MOUNT

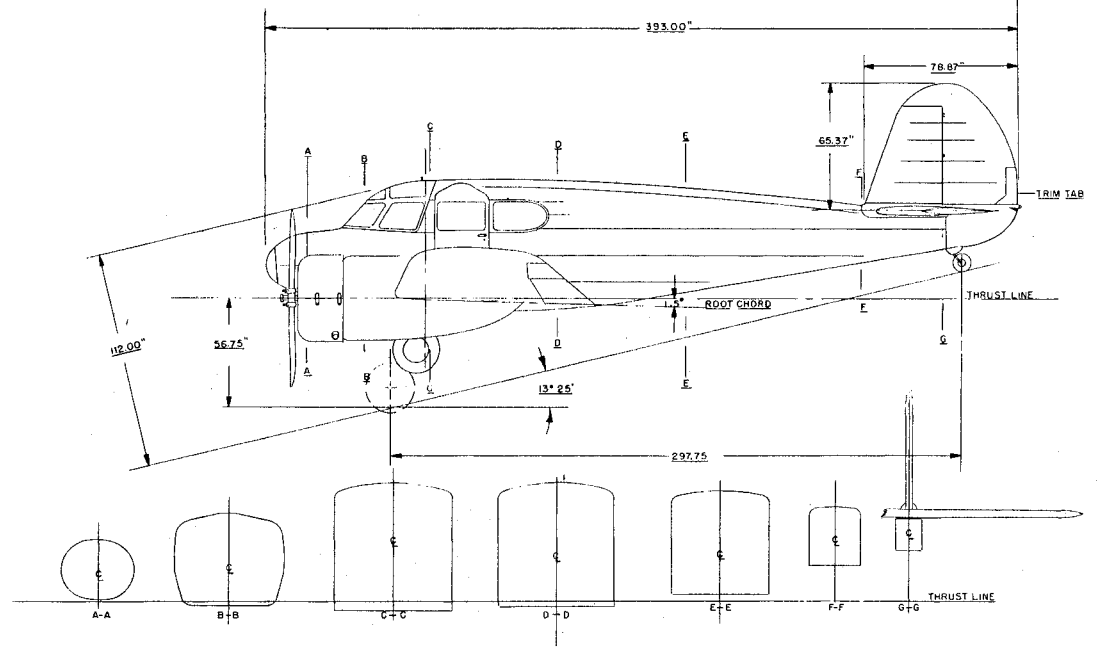
1/8 5 PLY

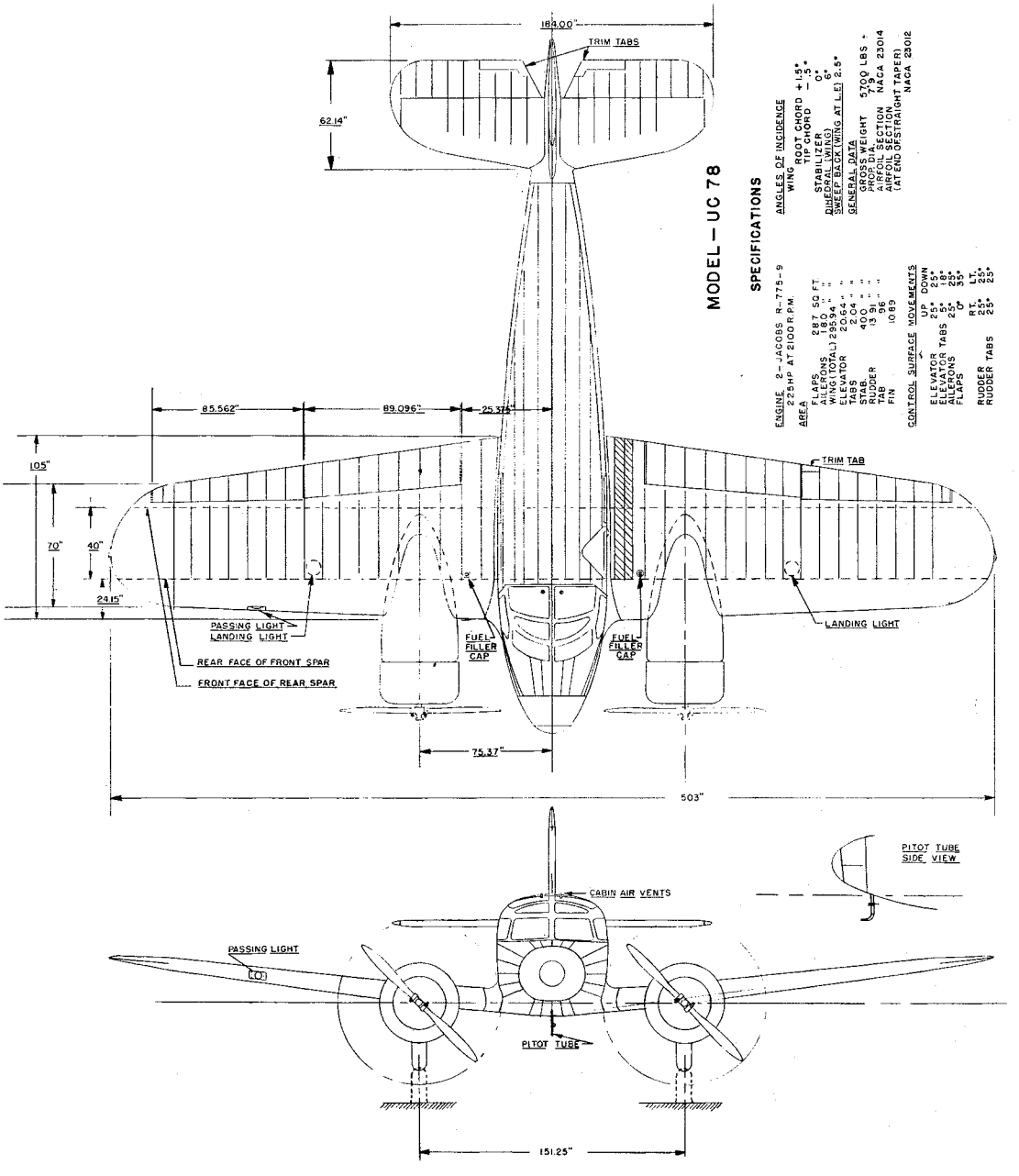
Cessna UC-78

2-2

DESIGNED BY	BOB MORSE	DRAWN BY	GEORGE A. WALKER

0 1 2 3 4 5 6


393.00"
78.87"
65.37"
TRIM TAB
THRUST LINE
ROOT CHORD
112.00"
56.75"
13° 25'
297.75
A-A
B-B
C-C
D-D
E-E
F-F
G-G
THRUST LINE


184.00"
TRIM TABS
62.14"
MODEL – UC 78
SPECIFICATIONS
ENGINE 2-JACOBS R-775-9
225HP AT 2100 R.P.M.
AREA
FLAPS 28.7 SQ. FT.
AILERONS 18.0 " "
WING (TOTAL) 295.94 " "
ELEVATOR 20.64 " "
TABS 4.00 " "
STAB. 41.04 " "
RUDDER 13.91 " "
TAB 1.96 " "
FIN 10.89 " "
ANGLES OF INCIDENCE
WING ROOT CHORD +1.5°
TIP CHORD -.5°
STABILIZER 0°
DIHEDRAL (WING) 0°
SWEEP BACK (WING AT L.E.) 2.5°
GENERAL DATA
GROSS WEIGHT 5700 LBS.
PROP. DIA. 7'9"
AIRFOIL SECTION NACA 23014
(AT END OF STRAIGHT TAPER) NACA 23012
CONTROL SURFACE MOVEMENTS
UP DOWN
ELEVATOR 25° 25°
ELEVATOR TABS 25° 25°
AILERONS 0° 35°
FLAPS 0° 35°
RT. LT.
RUDDER 25° 25°
RUDDER TABS 25° 25°
85.562"
89.096"
25.375"
105"
70"
40"
24.15"
TRIM TAB
PASSING LIGHT
LANDING LIGHT
REAR FACE OF FRONT SPAR
FRONT FACE OF REAR SPAR
FUEL FILLER CAP
FUEL FILLER CAP
LANDING LIGHT
75.37"
503"
PITOT TUBE
SIDE VIEW
CABIN AIR VENTS
PASSING LIGHT
PITOT TUBE
151.25"